

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A method for monitoring ~~gathering~~ messages and failure codes ~~in a system including a processing tool having a tool controller and generated by~~ a front end component in a processing tool controlled by a tool controller, whereby ~~the front end component is coupled with~~ having a front end component controller, the method comprising the steps of:

(a) receiving ~~the~~ messages and failure codes generated by the ~~from the~~ front end component controller through a data acquisition device that is coupled with the front end controller separate from the tool controller;

(b) filtering the messages and failure codes received by the data acquisition device in said step (a) according to user defined criteria;

(c) storing the messages and failure codes filtered in said step (b) ~~(e)~~ in a database; and

(d) presenting the messages and failure codes filtered in said step (b) ~~(e)~~ over a network.

2. (Currently Amended) The method according to claim 1, wherein ~~receiving~~ the messages and failure codes received in said step (a) are ~~received~~ sent from a load port controller.

3. (Currently Amended) The method according to claim 1, wherein ~~receiving~~ the messages and failure codes received in said step (a) are ~~received~~ sent from an auto ID controller.

4. (Currently Amended) The method according to claim 1, wherein ~~receiving~~ the messages and failure codes received in said step (a) are ~~received~~ sent from a wafer handling robot controller.

5. (Currently Amended) The method according to claim 1, wherein ~~receiving~~ the messages and failure codes received in said step (a) are ~~received~~ sent from a pre-aligner controller.

6. (Currently Amended) The method according to claim 1, wherein ~~receiving~~ the messages and failure codes received in said step (a) are ~~received~~ sent from a minienvironment controller.

7. The method according to claim 1, wherein receiving the messages and failure codes in said step (a) comprises receiving the messages and failure codes in real time.

8. The method according to claim 1, wherein presenting the messages and failure codes in said step (d) comprises presenting the messages and failure codes in real time.

9. (Currently Amended) The method according to claim 1, wherein presenting the messages and failure codes over a network in said step (d) ~~(e)~~ includes providing access to the network by an Internet browser.

10. (Currently Amended) The method according to claim 1, wherein presenting the messages and failure codes over a network in said step (d) ~~(e)~~ comprises: ~~includes~~

(i) exporting messages and failure codes stored in said step (c); and

(ii) generating a report that organizes the ~~exported~~ messages and failure codes exported in said step (d)(i) into a user readable format.

11. (Currently Amended) The method according to claim 10, wherein generating a report in said step (d)(ii) comprises: ~~includes~~

(i) defining which messages and failure codes stored in the database in said step (c) are relevant,

(ii) defining a start date and a start time for the report,

(iii) defining an end date and an end time for the report,

(iv) gathering the relevant messages and failure codes from the database that are between the start date and time defined in said step (ii) and the end date and time defined in said step (iii), and

(iv) presenting the ~~gathered~~ messages and failure codes gathered in said step (iv) in a readable format.

12. The method according to claim 1, wherein receiving the messages in said step (a) comprises receiving messages selected from a group consisting of (i) event messages, (ii) control messages, and (iii) configuration messages.

13. The method according to claim 1, wherein presenting the messages and failure codes in said step (d) includes presenting the messages and failure codes over a wireless network.

14. The method according to claim 1, wherein filtering the messages in said step (b) includes (i) storing the messages and failure codes temporarily in a local memory, (ii) selecting which messages and failure codes temporarily stored in the local memory will be stored the database, and (iii) forwarding the selected messages to the database.

15. (Currently Amended) A data collection and diagnostic system, comprising:

a processing tool having a plurality of front end components, each one of said plurality of front end components electrically coupled with ~~having~~ a component controller and generating ~~adapted to send~~ messages and alarm signals relating to the operation of said front end component;

a tool controller electrically coupled to each one of said component controllers, ~~said tool controller adapted to monitor some of said messages and alarm signals received from said component controllers;~~

a data acquisition device electrically coupled to each one of said component controllers separate from said tool controller, said data acquisition device adapted to receive ~~monitor all of~~ said messages and alarm signals ~~received from~~ generated by each one of said component controllers, ~~and~~ including:

a processor ~~adapted to filter said messages and alarm signals received from said component controllers;~~

a ~~database~~ memory for storing said ~~adapted to store said~~ messages and alarm signals ~~filtered by said processor; and~~

a network interface; and

a remote ~~central~~ computer electrically coupled to said tool controller and said network interface of said data acquisition device ~~by a network~~.

16. The system according to claim 15, wherein said plurality of front end components are selected from a group consisting of (i) a load port assembly, (ii) a wafer handling robot, (iii) a pre-aligner, and (iv) an auto ID system.

17. The system according to claim 15, wherein said component controllers are selected from a group consisting of (i) a load port assembly controller, (ii) an auto ID controller, (iii) a wafer handling robot controller, (iv) a pre-aligner controller, (v) a minienvironment controller, and (vi) an AMHS controller.

18. (Currently Amended) The system according to claim 15, wherein said remote computer is electrically coupled to said network interface through ~~network~~ comprises a local area network.

19. (Currently Amended) The system according to claim 15, wherein said remote computer is electrically coupled to said network interface through a wireless ~~network interface further provides an interface for wireless access to said database.~~

20. (Currently Amended) A data collection and diagnostic system, comprising:

a processing tool having a plurality of front end components, each one of said plurality of front end components having a component controller for generating ~~adapted to send~~ messages and alarm signals relating to the operation of said front end component;

a tool controller electrically coupled to each one of said component controllers, ~~said tool controller adapted to monitor some of said messages and alarm signals received from said component controllers;~~

a data acquisition device electrically coupled to each one of said component controllers, ~~said data acquisition device adapted to monitor~~ separate from said tool controller for monitoring all of said messages and alarm signals received from generated by said component controllers, ~~and including:~~

~~a processor adapted to filter said messages and alarm signals received from said component controllers; and~~

~~a network interface;~~

a database for storing ~~adapted to store~~ said messages and alarm signals generated by said component controllers ~~filtered by said processor; and~~

a central computer electrically coupled to said tool controller, said data acquisition device ~~network interface, and said database by a network.~~